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EXAMINER	
RYMAN, DANIEL J	
ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/616,477	NOEL ET AL.	
	Examiner	Art Unit	
	Daniel J. Ryman	2665	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26 and 28-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26 and 28-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/21/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 31-34 have been considered but are moot in view of the new ground(s) of rejection.

2. Applicant's arguments filed 1/21/2005 have been fully considered but they are not persuasive. Applicant asserts that Ramakrishnan does not disclose that the test port can be programmed to function as a working port of the device. Specifically, Applicant argues that "[t]he monitor ports in Ramkrishnan are understood to be *dedicated* ports that can only be used for monitoring of the network traffic data." Examiner, respectfully, disagrees with Applicant's assertion.

3. First, the limitation in Applicant's claims only require that the test port be "capable of being programmed to function as a working port." This limitation does not require that the test port can be modified dynamically while the switch is in operation, as Applicant seems to imply. Rather the limitation only requires that the test port be capable of functioning as a working port. Ramakrishnan discloses that the ports of the switch can be configured to as a monitoring port, output port, or input port (paragraphs 25, 27, and 31). As such, the ports of the device can be programmed to function as a working port or a test port.

4. Applicant further asserts that Ramakrishnan does not disclose that the cross-connection subsystem is capable of programming the test port, which is capable of functioning as a working port, to function as a working port. Again, Examiner, respectfully, disagrees. Ramakrishnan teaches that the cross-connection is implemented in software such that it can be easily modified (paragraph 31). Ramakrishnan also discloses that the ports on the switch can be configured as a

monitoring port, output port, or input port (paragraphs 25, 27, and 31). As such, it is inherent that, when a port is configured as a particular type of port, the cross-connection is programmed to operate accordingly. Thus, Ramakrishnan teaches that the cross-connection subsystem is capable of programming the test port to function as a working port when the system is reconfigured.

5. Given the above arguments, Examiner maintains the rejection of claims 1-26, 28-30, and 35-53.

Specification

6. Examiner requests that Applicant update the status of the application on page 1, lines 1-3 to reflect any changes in the status of the application.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 10-15, 17, 18, 22, 26, 28, 29, 35-45, 47-49, and 51-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Ramakrishnan (PGPub 2003/0012196).

9. Regarding claim 1, Ramakrishnan discloses a network device, comprising: a physical layer subsystem for transferring network data in accordance with a physical layer protocol and including a physical layer working port (ref. 201-203 and 221-223) capable of being connected to a first physical network attachment (paragraphs 9-10 and 24-27); an upper layer subsystem for

transferring the network data in accordance with an upper layer protocol and coupled with the physical layer subsystem (paragraphs 9-10, 20-22, 24-27, and 31); and wherein the physical layer subsystem further includes a physical layer test port (monitor port) coupled to the physical layer subsystem and the upper layer subsystem and capable of being connected to a second physical network attachment (ref. 230) (paragraphs 9-10 and 24-27), and wherein said test port is capable of being programmed to function as a working port (paragraphs 24-32).

10. Regarding claim 2, Ramakrishnan discloses that the physical layer subsystem further comprises: a cross-connection subsystem (ref. 210) for transferring the network data between the physical layer working port and the upper layer subsystem and multicasting a portion of the network data to the physical layer test port (paragraphs 9-10, 24-27, and 31).

11. Regarding claim 10, Ramakrishnan discloses that a portion of the network data comprises a received portion of the network data (received packet) (paragraphs 9-10, 24-27, and 31).

12. Regarding claim 11, Ramakrishnan discloses that the received portion of the network data comprises at least one path (paragraphs 9-10, 20-22, 24-27, and 31).

13. Regarding claim 12, Ramakrishnan discloses that the portion of the network data comprises a transmit portion of the network data (transmitted packet) (paragraphs 9-10, 24-27, 30, and 31).

14. Regarding claim 13, Ramakrishnan discloses that the transmit portion of the network data comprises at least one path (paragraphs 9-10, 20-22, 24-27, 30, and 31).

15. Regarding claim 14, Ramakrishnan discloses that the physical layer test port is a first physical layer test port and the physical layer subsystem further comprises: a second physical layer test port coupled to the physical layer subsystem and the upper layer subsystem and

capable of being connected to a third physical network attachment (ref. 230) (paragraphs 9-10 and 28-32).

16. Regarding claim 15, Ramakrishnan discloses that the cross-connection subsystem is further capable of multicasting another portion of the network data to the second physical layer test port (paragraphs 9-10 and 24-32).

17. Regarding claim 17, Ramakrishnan discloses that the physical layer working port is a first physical layer working port (paragraphs 9-10 and 24-32) and wherein the physical layer subsystem further includes: a second physical layer working port capable of being connected to a third physical network attachment (paragraphs 9-10 and 24-32); and wherein the network device further includes: a cross-connection subsystem for transferring the network data between the first and second physical layer working ports and the upper layer subsystem and for multicasting a first portion of the network data transferred between the first physical layer working port and the upper layer subsystem to the physical layer test port (paragraphs 9-10 and 24-32) and for multicasting a second portion of the network data transferred between the second physical layer working port and the upper layer subsystem to the physical layer test port (paragraphs 9-10 and 24-32).

18. Regarding claim 18, Ramakrishnan discloses that the first physical network attachment comprises an input optical fiber and an output optical fiber (paragraphs 4-5, 9-10, 20-22, 24-27, and 31) where Ramakrishnan discloses that the invention is useful in optical networks.

19. Regarding claim 22, Ramakrishnan discloses that the upper layer protocol comprises ATM (paragraphs 21-22).

20. Regarding claim 26, Ramakrishnan discloses a network device, comprising: an upper layer subsystem for transferring network data in accordance with an upper layer protocol (paragraphs 9-10, 20-22, 24-27, and 31); a physical layer subsystem for transferring the network data with the upper layer subsystem and including a plurality of ports (ref. 201-203 and 221-223) capable of being connected to physical network attachments (paragraphs 9-10 and 24-27), wherein the one or more of said ports being designated as physical layer test ports (paragraphs 27-32) and one or more of said ports being designated as working ports (paragraphs 27-32), wherein at least one of said test ports is capable of being programmed to function as a working port (paragraphs 24-32); a cross-connection subsystem for transferring the network data between the upper layer subsystem and the working ports and for multicasting a portion of the network data to at least one of the test ports (paragraphs 9-10 and 24-31), wherein the cross-connection subsystem is capable of programming said at least one test port to function as a working port (paragraphs 24-32).

21. Regarding claim 28, Ramakrishnan discloses that the test ports comprise a first test port and a second test port and wherein the cross-connection subsystem is capable of multicasting a portion of the network data to the first test port and another portion of the network data to the second test port (paragraphs 9-10 and 24-31).

22. Regarding claim 29, Ramakrishnan discloses that the working ports comprise a first working port and a second working port and wherein the cross-connection subsystem is capable of transferring the network data between the upper layer subsystem and the first and second working ports and of multicasting a first portion of the network data transferred between the upper layer subsystem and the first working port to one of the test ports and a second portion of

the network data transferred between the upper layer subsystem and the second working port to the test port (paragraphs 9-10 and 24-31).

23. Regarding claim 35, Ramakrishnan discloses a method of operating a network device, comprising: transferring network data between a physical layer working port within a physical layer subsystem and a physical network attachment capable of being coupled with another network device (paragraphs 9-10, 17-20, and 24-27)); transferring network data between the working port and an upper layer subsystem (paragraphs 9-10 and 24-27); providing another port within said physical layer subsystem capable of being programmed to function as a test port or another working port (paragraphs 24-32); programming said another port to function as a test port (paragraphs 24-32); and sending a copy of a portion of the network data transferred between the working port and the upper layer subsystem to the physical layer test port (paragraphs 9-10 and 24-27).

24. Regarding claim 36, Ramakrishnan discloses sending a copy of another portion of the network data transferred between the physical layer subsystem and the upper layer subsystem to the test port (paragraphs 9-10 and 24-32).

25. Regarding claim 37, Ramakrishnan discloses sending the copy of the portion of the network data transferred between the working port and the upper layer subsystem to another test port (paragraphs 9-10 and 24-27).

26. Regarding claim 38, Ramakrishnan discloses that sending a copy of a portion of the network data transferred between the working port and the upper layer subsystem to a physical layer test port comprises: programming a cross-connection subsystem to provide connections

between the working port, the upper layer subsystem and the test port (paragraphs 9-10 and 24-32).

27. Regarding claim 39, Ramakrishnan discloses re-programming the cross-connection subsystem to provide connections between the working port, the upper layer subsystem and another test port (paragraphs 9-10 and 24-32).

28. Regarding claim 40, Ramakrishnan discloses re-programming the cross-connection subsystem to provide connections between another working port, the upper layer subsystem and the test port (paragraphs 9-10 and 24-32).

29. Regarding claim 41, Ramakrishnan discloses that sending a copy of a portion of the network data transferred between the working port and the upper layer subsystem to a physical layer test port comprises: programming a cross-connection subsystem to provide connections between the working port and the upper layer subsystem and between a receiver of the working port and the test port (paragraphs 9-10 and 24-32, esp. paragraphs 24-29).

30. Regarding claim 42, Ramakrishnan discloses that sending a copy of a portion of the network data transferred between the working port and the upper layer subsystem to a physical layer test port comprises: programming a cross-connection subsystem to provide connections between the working port and the upper layer subsystem and between a transmitter of the upper layer subsystem and the test port (paragraphs 9-10 and 24-32, esp. paragraph 30).

31. Regarding claim 43, Ramakrishnan discloses programming a cross-connection subsystem to provide connections between a transmitter of the upper layer subsystem and a connection of the working port for transmitting data to another network device and between a receiver of the

upper layer subsystem and a connection of the test port for receiving data from the network attachment (paragraphs 9-10 and 24-32).

32. Regarding claim 44, Ramakrishnan discloses that the portion of the network data comprises at least one path (paragraphs 9-10 and 24-32).

33. Regarding claim 45, Ramakrishnan discloses a network device, comprising: a plurality of ports capable of being connected to external physical network attachments (paragraphs 9-10 and 17-20) and capable of being programmed as test ports or working ports (paragraphs 24-32).

34. Regarding claim 47, Ramakrishnan discloses that at least one of the plurality of ports is programmed as a test port and at least one of the plurality of ports is programmed as a working port and the physical layer subsystem further includes: a cross-connection subsystem for multicasting network data to the test port and the working port (paragraphs 9-10 and 24-32).

35. Regarding claim 48, Ramakrishnan discloses that the test port is a first test port and another one of the plurality of ports is programmed as a second test port and wherein the cross-connection subsystem is capable of multicasting the network data to the working port, the first test port and the second test port (paragraphs 9-10 and 24-32).

36. Regarding claim 49, Ramakrishnan discloses that the working port is a first working port and another one of the plurality of ports is programmed as a second working port and wherein the cross-connection subsystem is capable of transferring the network data between the first and second working ports and for multicasting the network data to the test port (paragraphs 9-10 and 24-32).

37. Regarding claim 51, Ramakrishnan discloses a network device, comprising: a physical layer subsystem including a plurality of ports capable of being connected to physical network

attachments (paragraphs 9-10 and 17-20), wherein the plurality of ports include at least one working port and at least one test port (paragraphs 9-10 and 24-27); and a cross-connection subsystem coupled to the physical layer subsystem and capable of being programmed to transfer the network data to the working port and to the test port (paragraphs 9-10 and 24-32), wherein said cross-connection subsystem is capable of configuring said test port to function as another working port (paragraphs 24-32).

38. Regarding claim 52, Ramakrishnan discloses a network device, comprising: a physical layer subsystem including a plurality of ports (paragraphs 9-10 and 17-20); and a cross-connect subsystem coupled to the physical layer subsystem and capable of being configured to implement at least one of the plurality of ports as a working port and at least another of the plurality of ports as a test port (paragraphs 9-10 and 24-32), wherein said cross-connection subsystem is capable of configuring said test port to function as another working port (paragraphs 24-32).

39. Regarding claim 53, Ramakrishnan discloses that the cross-connect subsystem is capable of multicasting network data to the working port and the test port (paragraphs 9-10 and 24-32).

Claim Rejections - 35 USC § 103

40. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

41. Claims 3-7, 16, 19-21, 23-25, 30, 46, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramakrishnan (PGPub 2003/0012196).

42. Regarding claim 3, Ramakrishnan discloses that the cross-connection subsystem comprises a cross-connection mechanism (paragraphs 9-10, 24-27, and 31), the physical layer subsystem comprises a port including the working port and the test port (paragraphs 9-10, 24-27, and 31) and connected to the cross-connection mechanism, and the upper layer subsystem includes a forwarding mechanism connected to the cross-connection card (paragraphs 9-10, 20-22, 24-27, and 31). Ramakrishnan does not expressly disclose that the various subsystems are implemented using cards, specifically a cross-connection card, a port card, and a forwarding card; however, Examiner takes official notice that implementing a system using cards (printed circuit boards) is well known in the art since cards provide the hardware necessary to implement a component. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the various subsystems using cards since cards provide the hardware necessary to implement a component.

43. Regarding claim 4, Ramakrishnan discloses that the cross-connection subsystem comprises a cross-connection mechanism (paragraphs 9-10, 24-27, and 31), wherein the physical layer subsystem comprises a first port including the working port and a second port including the test port (paragraphs 9-10, 24-27, and 31), wherein the first and second ports are connected to the cross-connection mechanism (paragraphs 9-10, 24-27, and 31), and the upper layer subsystem includes a forwarding mechanism connected to the cross-connection mechanism (paragraphs 9-10, 20-22, 24-27, and 31). Ramakrishnan does not expressly disclose that the various subsystems are implemented using cards, specifically a cross-connection card, a port card, and a forwarding card; however, Examiner takes official notice that implementing a system using cards (printed circuit boards) is well known in the art since cards provide the hardware necessary to implement

a component. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the various subsystems using cards since cards provide the hardware necessary to implement a component.

44. Regarding claim 5, Ramakrishnan suggests that the first port card further includes a second test port (paragraphs 9-10 and 28-31).

45. Regarding claim 6, Ramakrishnan suggests that the second port card further includes a second test port (paragraphs 9-10 and 28-31).

46. Regarding claim 7, Ramakrishnan suggests that the physical layer subsystem further includes a third port card including a second test port and wherein the third port card is connected to the cross-connection card (paragraphs 9-10 and 28-31).

47. Regarding claim 16, Ramakrishnan discloses that the physical layer subsystem further comprises: a cross-connection subsystem for transferring the network data from the upper layer subsystem to the physical layer working port (paragraphs 9-10, 24-27, and 31) and for transferring test data to the physical layer test port from the upper layer subsystem (paragraphs 9-10, 24-27, and 31).

Ramakrishnan does not disclose that the cross-connection subsystem is for transferring test data from the physical layer test port to the upper layer subsystem. Examiner takes official notice that it is well known in the art to have a monitoring unit transmit information in order to report the monitoring results to another unit. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the cross-connection subsystem transfer test data from the physical layer test port to the upper layer subsystem in order to transmit any monitoring results to another unit.

48. Regarding claim 19, Ramakrishnan discloses that the first physical network attachment includes communication links (paragraphs 17-20). Ramakrishnan does not expressly disclose that the first physical network attachment comprises an input cable and an output cable; however, Examiner takes official notice that cables are well known physical network attachments. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the first physical network attachment comprises an input cable and an output cable since cables are well known attachments.

49. Regarding claim 20, Ramakrishnan discloses that the system can be implemented in an optical network (paragraphs 5 and 31). Ramakrishnan does not expressly disclose that the physical layer protocol comprises SONET; however, Examiner takes official notice that SONET is a well-known physical layer protocol for optical networks. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the physical layer protocol comprise SONET since SONET is a well-known physical layer protocol for optical networks.

50. Regarding claim 21, Ramakrishnan does not expressly disclose that the physical layer protocol comprises Ethernet; however, Examiner takes official notice that Ethernet is a very well known protocol. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the physical layer protocol comprise Ethernet since Ethernet is a well-known protocol.

51. Regarding claim 23, Ramakrishnan does not expressly disclose that the upper layer protocol comprises MPLS; however, Ramakrishnan does disclose using ATM as the upper layer protocol (paragraphs 21-22). Examiner takes official notice that MPLS is a well-known protocol.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute one protocol for another well-known protocol.

52. Regarding claim 24, Ramakrishnan does not expressly disclose that the upper layer protocol comprises IP; however, Ramakrishnan does disclose using ATM as the upper layer protocol (paragraphs 21-22). Examiner takes official notice that IP is a well-known protocol. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute one protocol for another well-known protocol.

53. Regarding claim 25, Ramakrishnan does not expressly disclose that the upper layer protocol comprises Frame Relay; however, Ramakrishnan does disclose using ATM as the upper layer protocol (paragraphs 21-22). Examiner takes official notice that Frame Relay is a well-known protocol. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute one protocol for another well-known protocol.

54. Regarding claim 30, Ramakrishnan discloses that the cross-connection subsystem is capable of transferring the network data from the upper layer subsystem to the working port (paragraphs 9-10 and 24-31). Ramakrishnan does not expressly disclose that the cross-connection subsystem is capable of transferring data from at least one of the test ports to at least one of the working ports. Examiner takes official notice that it is well known in the art to have a monitoring unit transmit information in order to report the monitoring results to another unit. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the cross-connection subsystem transfer test data from the test port to the working port in order to transmit any monitoring results to another unit.

55. Regarding claim 46, Ramakrishnan discloses that the system can be implemented in an optical network (paragraphs 5 and 31). Ramakrishnan does not expressly disclose that the physical layer subsystem transfers network data in accordance with SONET protocol; however, Examiner takes official notice that SONET is a well-known physical layer protocol for optical networks. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the physical layer subsystem transfer network data in accordance with SONET protocol since SONET is a well-known physical layer protocol for optical networks.

56. Regarding claim 50, Ramakrishnan discloses that at least one of the plurality of ports is programmed as a working port and at least one of the plurality of ports is programmed as a test port (paragraphs 9-10 and 24-32). Ramakrishnan does not expressly disclose that the physical layer subsystem further includes: a cross-connection subsystem for transferring the network data from the test port to the working port. Examiner takes official notice that it is well known in the art to have a monitoring unit transmit information in order to report the monitoring results to another unit. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the cross-connection subsystem transfer network data from the test port to the working port in order to transmit any monitoring results to another unit.

57. Claim 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramakrishnan (PGPub 2003/0012196) as applied to claim 2 above, and further in view of Bavant et al. (USPN 6,529,473).

58. Regarding claim 8, Ramakrishnan discloses that the cross-connection subsystem comprises a cross-connection mechanism, wherein the physical layer subsystem comprises a first port connected to the cross-connection mechanism and a second port connected to the cross--

connection mechanism, and wherein the upper layer subsystem comprises a forwarding mechanism connected to the cross-connection mechanism (paragraphs 9-10 and 24-31).

Ramakrishnan does not expressly disclose that the various subsystems are implemented using cards, specifically a cross-connection card, a port card, and a forwarding card; however, Examiner takes official notice that implementing a system using cards (printed circuit boards) is well known in the art since cards provide the hardware necessary to implement a component. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the various subsystems using cards since cards provide the hardware necessary to implement a component.

Ramakrishnan does not expressly disclose that the cross-connection subsystem comprises a first cross-connection card and a second cross-connection card, wherein the physical layer subsystem comprises a first port card connected to the first cross-connection card and a second port card connected to the second cross-connection card, and wherein the upper layer subsystem comprises a first forwarding card connected to the first cross-connection card and a second forwarding card connected to the second cross-connection card. Bavant teaches, in an ATM switching system, having a first cross-connection mechanism (active mechanism) (col. 2, lines 43-59) and a second cross-connection mechanism (passive mechanism) (col. 2, lines 43-59), wherein the physical layer subsystem comprises a first port connected to the first cross-connection mechanism and a second port connected to the second cross-connection mechanism (col. 2, lines 43-59), and wherein the upper layer subsystem comprises a first forwarding mechanism (management means) connected to the first cross-connection mechanism (col. 2, lines 43-59) and a second forwarding mechanism (management means) connected to the

second cross-connection mechanism (col. 2, lines 43-59) in order to ensure reliability of the system (col. 2, lines 43-59). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the cross-connection subsystem comprise a first cross-connection card and a second cross-connection card, wherein the physical layer subsystem comprises a first port card connected to the first cross-connection card and a second port card connected to the second cross-connection card, and wherein the upper layer subsystem comprises a first forwarding card connected to the first cross-connection card and a second forwarding card connected to the second cross-connection card in order to ensure reliability of the system.

59. Regarding claim 9, Ramakrishnan in view of Bavant suggests that the first and second cross-connection cards are connected and the first port card includes the working port and the second port card includes the test port (Bavant: col. 2, lines 43-59) where the two cards will include the same ports since one cards needs to take over the function of the other card upon a failure.

60. Claims 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramakrishnan (PGPub 2003/0012196) in view of Baidon et al. (USPN 5,699,348).

61. Regarding claim 31, Ramakrishnan discloses a network device, comprising: an upper layer subsystem for transferring network data in accordance with an upper layer protocol (paragraphs 9-10, 20-22, 24-27, and 31); a physical layer subsystem including a plurality of ports capable of being connected to physical network attachments (paragraphs 9-10, 24-27, and 31), wherein the plurality of ports include a working port and a test port (paragraphs 9-10, 20-22, 24-27, and 31); and a cross-connection subsystem coupled to the upper layer subsystem and the physical layer subsystem and capable of being programmed to transfer the network data between

the upper layer subsystem and the working port and to multicast a portion of the network data to the test port (paragraphs 9-10 and 24-32), wherein at least one of said network attachments is a test equipment (paragraphs 9-10 and 24-25).

Ramakrishnan does not expressly disclose that the test port is capable of transmitting test data from said network equipment to said any of said physical layer subsystem and said cross-connection subsystem. Baidon teaches, in a monitoring system, having a monitor on a network element collect test data and then transmit this test data to a central management system (col. 2, lines 8-21) where it is implicit this is done in order to compile test data for the entire network. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to enable the test port to transmit test data from said network equipment to said any of said physical layer subsystem and said cross-connection subsystem in order to allow the network equipment to transmit test data to a central management system.

62. Regarding claim 32, Ramakrishnan in view of Baidon discloses that the test port is a first test port, the plurality of ports further comprises a second test port and the cross-connection subsystem is further capable of being programmed to multicast another portion of the network data to the second test port (Ramakrishnan: paragraphs 9-10 and 24-32).

63. Regarding claim 33, Ramakrishnan in view of Baidon suggests that the cross-connection subsystem is further capable of being programmed to send the network data from the working upper layer subsystem to the working port (Ramakrishnan: paragraphs 9-10 and 24-31) and from the test port to the upper layer subsystem (Baidon: col. 2, lines 8-21).

64. Regarding claim 34, Ramakrishnan in view of Baidon discloses that the working port is a first working port, the plurality of ports includes a second working port and the cross-connection

subsystem is further capable of being programmed to transfer the network data between the upper layer subsystem and the first and second working ports and to multicast a first portion of the network data transferred between the upper layer subsystem and the first working port to the test port and to multicast a second portion of the network data transferred between the upper layer subsystem and the second working port to the test port (Ramakrishnan: paragraphs 9-10 and 24-31).

Conclusion

65. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Murthy et al. (USPN 6,545,982) see entire document which pertains to copying a packet received at one port and sending the copy to a monitoring port.

66. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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ALPUS H. HSU
PRIMARY EXAMINER